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ABSTRACT

Vocational development theories categorized as trait-and-factor approaches, decision-model approaches, sociological approaches, psychological approaches, and developmental approaches are presented to show how they might be applied in elementary, middle, and high school career education programs. The paper describes The Multi-Component Career Education Curriculum Model, developed at Eastern Illinois University, as an example of the current use of vocational development theory, learning theor, child growth and development theory, and curriculum development theory in formulating curricular materials and procedures for career education programs. It is emphasized that in building such programs, the interaction of the various theories is needed, not just the application of vocational development theories alone. Career development takes place over a number of years; occupational choice is not "a point in time event;" and an individual chooses occupations which will allow him to function in a role consistent with his self-concept. In developing career education materials the occupational, economic, social, family, moral, and leisure being must be considered in order to help students learn how to become the persons they want to be and are capable of becoming. (VT)

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APPLICATION OF VOCATIONAL DEVELOPMENT THEORY TO CAREER EDUCATION

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INTRODUCTION

The purpose of this information analysis paper is to discuss how vocational development theory can be applied to career education programs. Vocational development theories which fall into the categories of: (1) Trait-and-Factor Approaches, (2) Decision Model Approaches, (3) Sociological Approaches, (4) Psychological Approaches, and (5) Developmental Approaches are presented in a manner which shows how these theories could be applied in elementary, middle, and high school career education programs. The main thrust of each theory will be highlighted; however, no attempt will be made to present a complete documentation of each theory. No significance should be attached to the sequence in which the theories are presented.

This paper presents one model, The Multi-Component Career Education Curriculum Model, as an example of how vocational development theory, as well as learning theory, child growth and development theory, and curriculum development theory are currently being used to formulate curricular materials and procedures for career education programs.

TRAIT-AND-FACTOR APPROACHES

Trait-and-factor approaches generally view the individual as a composite of many traits or factors (e.g., aptitudes, interests, information known, and achievements) which can be identified through objective means--usually psychological tests or inventories, the test results being profiled to represent the individual's potential. Utilization of the trait-and-factor theory in discussing vocational development processes lies in the assumption that "...There is some degree of homogeneity or commonality within each occupational criterion group; therefore diagnostic tests should be composed of items which predominately characterize one occupational criterion group as compared with other occupational groups" (Williamson, 1965: 194), and that an individual's

measured "traits" or "factors" can be compared with the "traits" or "factors" that characterize an occupation.

Elementary school programs built on a trait-and-factor approach are highly cognitive and informational in nature. Some time is spent on helping an individual discover his capabilities: What things do I like to do best? What things am I good at? Time would also be spent on determining what types of jobs are available: What do people in the transportation industry do? What time do they have to go to work? How much money do they make? Some trait-and-factor theorists view occupational images as being very important in the selection of a career. Therefore, with a trait-and-factor approach, children begin to acquire accurate information about the world of work as soon as they are able.

Early, forced decision-making relative to occupational choice should be avoided. At the K-6 level, assisted self-discovery and self-understanding should be emphasized and ways should be devised to assist the individual with the development of his potential.

Actual testing of interests and aptitudes begins to take place toward the end of the middle school years. More sophisticated types of occupational information which relate directly to "measured" interests and aptitudes are provided. Selection of programs of studies at the high school level rely heavily on achievement, interest and aptitude test scores. The same types of data are likewise used in helping the student select a job or plan for further schooling beyond high school.

A point made by Cooley (1964) regarding trait-and-factor theory needs to be emphasized. Cooley feels that the trait-and-factor problem today is not simply the task of relating a test score (a predictor) to some <u>final</u> occupation but the consideration of patterns of attributes and their relationship to the sequence of decisions a young person must make in establishing himself in the world of work. Therefore, the application of trait-and-factor theory to vocational development has been tempered by giving the consideration of individual attributes, as they are related to decision-making, more emphasis than the measurement and comparisons of individual attributes and occupational group attributes.

DECISION MODELS

Recent attempts have been made to theorize about occupational choice through the use of decision models. Herr and Cramer (1972) indicate that, in one sense, these approaches are economic in origin. They say that the assumption, based upon Keynesian ecomonic theory, is that one chooses a career or an occupational goal which will maximize his gain and minimize his loss. The gain or loss can be anything of value to the particular individual. A given occupational or career pathway might be considered as a means of achieving certain possibilities (e.g., greater prestige, security, social mobility, or a spouse) when compared to another course of action. Herr and Cramer go on to say that implicit in such an approach is the expectation that the individual can be assisted to predict the outcomes of each alternative and the possibility of such outcomes. He will then choose the one which promises the most reward for his investment (e.g., time, tuition, union dues, delayed gratification) with the least probability of failure.

Formal decision theory conceives decision-making as a process having an essentially rational base, involving the selection of a single alternative at a particular point in time (Costello and Zalkind, 1963). However, Hansen (1964-65) takes the position that decisions are frequently more psychological than logical.

An elementary school career education program that uses a decision model approach to vocational development might construct activities that teach the decision-making process, while middle school career education programs which use a decision model approach provide opportunities for students to explore a number of occupational areas. Emphasis is placed on assisting the student to compare requirements, rewards, and duties inherent in several different occupational areas with his interests, values, motives, and personal capacities. Accurate and comprehensive data about occupational areas is a vital component of decision-making.

At the high school level, career education programs stress the evaluation of current occupational preferences in terms of new information the student has acquired about himself and his occupational preferences. Flexibility should

be built into curricular offerings so that students can actually move into courses that better suit their needs as more enlightened decisions are made.

A legitimate question which may be asked is: "How do decision-making theories differ from trait-and-factor theories?" Decision theory as it relates to vocational development extends beyond the "matching" of measured traits of an individual with factors of an occupation. The "probable," the "possible," and the "desirable" are emphasized more heavily in a decision theory approach than in a trait-and-factor approach. Blau, et al. (1956: 533) point out that "A choice between various possible courses of action can be conceptualized as motivated by two interrelated sets of factors: the individual's valuation of different alternatives and his chances of being able to realize each of the alternatives."

SOCIOLOGICAL APPROACHES

Sociolcgical theories of vocational development take into account that social factors such as social class membership, home influences, the school, the community, pressure groups, and role perception influence vocational development. During the 1960's, many research efforts were directed toward determing the relationship of sociological factors and vocational development. LoCascio (1967) studied vocational development among many different populations. From his research, it appears that the vocational development of those labeled as disadvantaged is more likely to be delayed or impaired than that of their favored contemporaries. Similar findings were made by Schmieding and Jensen (1968) when they studied American Indian students, and by Asbury (1968) when he examined the vocational development of rural disadvantaged boys. Gottlieb (1967) found no support for the proposition that the lower-class culture has a built-in set of values which discourage social mobility. Rather it appears that lower-class parents, although wanting their children to succeed, lack the abilities to help them move into more advantageous social positions.

An assumption is often made that social class factors limit only the poor. However, often unrealistic demands are

made upon middle and upper socioeconomic class youth. The "you must go to college" syndrome often restricts the career development of some middle and upper socioeconomic class youths.

Elementary school career education programs that incorporate sociological theories of career development might manifest some of the following characteristics: (1) a program of parent involvement and parent education would be present, (2) activities would be designed which would encourage students to examine their values in relation to values of other pressure groups, (3) group activities which enable the student to identify his role perception (e.g., leader, follower, enabler, or isolate) would be encouraged, (4) activities would take full advantage of the experimental background of the student (ethnic background, cultural background, etc.), and (5) opportunities in the community would be examined.

Middle school career education programs that reflect sociological approaches would likely differ from one geographic and socioeconomic setting to another. For example, research has revealed that Appalachian youth who stay in the geographic area have a significantly lower aspiration level than do those students who are native to an urban area (Stevic and Uhlig, 1967). School activities for youth in the Appalachian area might include activities that present a range of career opportunities. Stevic and Uhlig (1967) found that a major problem in raising the occupational aspirations of Applachian students appears to be lack of information and opportunity rather than lack of ability.

All aspects of aspirations, then, are areas which would be examined at the middle school level. Cultural constraints which prohibit students from access to their preferred choices must be dealt with. If the student does not have the economic resources, knowledge, techniques, and realistic beliefs by parents of his capabilities to support his aspirations, then he cannot cope effectively with his environment in order to reach his aspirations. Similar aspirations may exist across various socioeconomic classes, yet these aspirations are not within reach for some.

Middle school career education programs must help equip students with the coping behaviors necessary to operate in an occupational setting that is best for their capabilities, interests, and aspirations. This may mean that the upper middle school level programs should be equipping students with employability skills that will help them acquire the

economic resources necessary to remain in school in addition to preparing them for a future occupation. It means extensive development of communications and human relations skills, and it also means that parents need to be involved in helping understand the capabilities, interests, and talents that their child possesses.

High school programs would continue to assist students in overcoming the various socioeconomic barriers that might inhibit their vocational development. Cooperative education programs are particularly valuable for providing experiences that promote personal and self-development as well as employability skills. Another benefit for students who participate in cooperative programs is that money received for working can be used to overcome economic deficiencies.

PSYCHOLOGICAL APPROACHES

Bugg (1969) examines the main points of seven theories of career choice and extrapolates from each the kinds of guidance services that would be provided by elementary schools in which counselors and teachers adhered to that theory. It should be noted that Bugg uses the terms career choice, vocational choice, career development, and vocational development interchangeably. Bugg's work includes excellent analyses of psychological and developmental approaches to vocational development theory.

When Bugg prepared his analysis, he had the elementary counselor primarily in mind. In the time since the analysis first appeared, vocational development or career development activities have moved more and more into the regular curricular offerings of the elementary school and many of the extrapolations today have meaning for elementary teachers as well as counselors.

The first theory Bugg examined was the vocational theory of Edward S. Bordin and his associates. According to Bordin, et al. (1963), if an individual is not prevented from doing so by external economic, cultural, and geographic factors, he will choose as an adult an occupation which gratifies needs established in infancy and early childhood. Needs have

their source in instincts. The particular needs important to the individual and his patterns of satisfying them are determined by very early experiences and are established by age six. Although these are subject to slight modification throughout life, the primary work of the school years is to make students increasingly aware of precisely which occupations are most likely to gratify their needs (Shertzer and Stone, 1966).

As a theoretical basis for elementary school career education programs, Bordin's theory offers two possible directions. One is to omit occupational or career information in the elementary school on the grounds that the individual will act in accord with his needs, and find his proper occupational slot in a concentrated period of time in high school when he is more concerned with how to make a living (Bugg, 1969).

An alternative direction based on Bordin's theory is to assume that one of the school's proper functions is to help remove restrictions that would prevent the child from entering an occupation that will gratify his needs. The more intellectual knowledge the individual has of the world of work, the more likely he is to discover an occupation precisely suited to his needs and the more likely he is to take advantage of educational opportunities necessary to enter the occupation (Lyon, 1966). Bugg reasoned that lack of knowledge is a major cultural restriction, and if the child is not exposed early and consistently to accurate career education activities, he is no more likely to make up the deficit in later life than he would be to make up such a deficit in reading or arithmetic.

Also examined in Bugg's analysis is the vocational development theory of Robert Hoppock. Hoppock does not regard his work as a full-blown theory for research but rather as a series of speculations that have been useful to one counselor in understanding vocational behavior so that he can help young people make wise choices.

Needs are the key to occupational choice in Hoppock's theory. Every person has needs he may intellectually perceive or only vaguely feel, and occupations are selected to meet these needs. The process of career choice begins as soon as the individual recognizes that one or a small number of occupations meet his needs or provide activities that are satisfying. The two most significant factors in the actual

career choice are knowledge of self and knowledge of the world of work (Hoppock, 1963).

Hoppock's theory implies that school programs should provide activities which help children develop self-understanding and a broad awareness of the world of work. The following statement argues strongly for career education in the elementary grades in view of Hoppock's career choice theory.

> ...As [an individual] becomes aware of a variety of occupations or work situations, he gradually comes to realize that certain of these provide experiences which are satisfying to him and that others offer displeasing and frustrating experiences. As he becomes aware of these differences in terms of his own likes and dislikes, he is attracted to certain jobs and away from others. At this point, according to Hoppock, occupational choice actually starts. Since experiences have an impact upon the individual almost from birth onward, he has a broad framework of personal characteristics or felt needs long before he reaches the point maturationally when he will be seriously concerned with making a vocational selection.
>
> This viewpoint emphasizes the developmental aspect of career planning. Early attitudes and concepts of various occupations may exert influence later when the individual turns more seriously to considering how he will spend his life (Isaacson, 1966: 22).

Middle school and high school programs that reflect Hoppock's theory, then, are flexible programs that allow students to change their program of studies as their needs change. Exploration programs at the middle school level which encourage students to "try out" work in various occupational areas will help students better understand their needs.

The career development theory of Roe (1956), based on Maslow's need hierarchy, is included in Bugg's analysis of seven theories of career choice. According to Roe, the needs postulated by Maslow provide the motivation for career

choice, and these motivations are largely unconscious. Childhood experiences, especially the treatment that the child receives from his parents, cause some needs to become dominant. These dominant needs are translated into interests, and the interests in turn are translated into vocational selection. The intensity and organization of one's needs, which determine vocational choice, are set by kindergarten age.

Maslow's (1954) need hierarchy says that lower-order needs must be satisfied before higher-order needs appear, and Roe (1956) utilizes this thesis in an intricate theoretical model of career choice. Needs which are routinely satisfied as they appear do not become unconscious motivators. Needs which are rarely satisfied will disappear if they are higher-order but will become almost totally dominant if they are lower-order. If the satisfaction of a need is delayed but eventually accomplished, the need will become an unconscious motivator (Hoppock, 1963; Shertzer and Stone, 1966).

In addition to helping determine which needs will be unconscious motivators in the child's life, parental treatment also determines whether one will or will not be oriented toward people. This is important to Roe's (1956) scheme since all occupations can be categorized as being either oriented to people or things (Shertzer and Stone, 1966).

Roe's theory (1956), as does that of Bordin, et al. (1963), offers two possible directions for elementary school career education programs. One is to omit career education at the elementary level. The other is to provide this service in the hope that it will help children discover occupations that satisfy unconscious motivations. External economic, cultural, and geographic factors play a less important role in Roe's theory than in Bordin's, however, so that one might make a strong argument in this theoretical base for delaying career education until the secondary years for all but a small number of children. Roe's two-dimensional classification of occupations according to levels and activity groups, however, provides an invaluable tool for school personnel who adhere to one of the developmental theories of career choice in planning a program of career education and in working with children in the upper grades (Isaacson, 1966).

DEVELOPMENTAL APPROACHES

Ginzberg, et al. (1951) have proposed a developmental theory of vocational choice as a largely irreversible process occurring over a minimum of six or seven years and probably at least 10 years. Each career decision made during the process is based on previous experiences, and each decision influences all future decisions. The activities and experiences to which a child is exposed are most important in this theory, because over the years the child develops a pattern of activities that he someday will express as a career.

Ginzberg, et al. (1951) proposes three stages in the development of a career: fantasy choice, tentative choice, and realistic choice. These periods correspond roughly to the elementary school years, the junior high and early high school years, and the late high school years and after, respectively (Shertzer and Stone, 1966).

Ginzberg's fantasy period, according to Bugg (1969), fits our common sense observation and is an appealing way to explain the behavior of the young child who says that he will be a cowboy or astronaut or big-league ball player. Even though in Ginzberg's theory the fantasy period represents a daydreaming, wishful-thinking approach to career choice (Ginzberg, et al., 1951), this period is very important in the theory since fantasy choices influence later realistic choices. Children's occupational aspirations do not take into account any personal, cultural, economic, or other limitations. As the child grows out of the fantasy period, he begins to limit his career choices in view of his personal interests, capacities, and values. In the period of realistic choice, he adds economic and other practical considerations to his choice. The final career choice is a compromise based on factors important to the individual in all three stages.

An important point, according to Bugg (1969), is that children cannot choose, even in fantasy, jobs that they do not know about. If fantasy choices influence later choices, and if fantasy choices are influenced by knowledge and attitudes available to the child, providing occupational information to the young child might broaden his horizons and

experiences in play and otherwise enhance his chances of adequate vocational selection.

Ginzberg's theory presents a strong case for early career education programs. According to this theory, career choice begins in early childhood, and these early decisions substantially influence one's eventual career choice. A well-planned and well-executed career education program during the elementary school years broadens the range of possible choices during all the stages.

Middle school and high school programs that reflect Ginzberg's theory stress that career decisions occur throughout a lifetime. These decisions involve risk-taking, and one decision may precipitate a chain reaction. The logical decision-making process as well as psychological factors which influence decision-making are a part of such school programs.

One of the most comprehensive theories of career development is that of Super (1957). The heart of Super's approach is that the process of vocational development is essentially that of developing and implementing a self-concept. Super's theory states that every person is suited to do many different jobs. The occupation one chooses depends in part on his socioeconomic background, abilities, and available opportunities. Through a process of compromise between individual and social factors, the individual selects a career that will enable him to be the kind of person that he views himself to be. A person may change his occupation if he discovers after entry that it is not congruent with his self-concept or if his self-concept changes.

Super (1957) has developed a series of life stages that are intimately involved with the work-history of the individual and postulate important factors which influence career choice from the earliest stages onward. Super's growth stage (birth to age five or six) and his exploratory stage (five or six into middle or late adolescence) are particularly important, for these are crucial years for self-concept formation.

During the exploratory stage, the individual becomes aware that work will be an important part of his life; in the latter part of this stage he narrows his occupational choice to those jobs he feels are within his abilities and will provide him with the opportunities that are most important to

him. School programs, then, must provide opportunities for the student to find out what his abilities are and the value that he places on them. Again, it seems that the opportunity for "hands on" explorations in a variety of occupational areas, accompanied by a good program of guidance services, will help the student more realistically narrow his occupational preference areas. Super reinforces this with his belief that development through the life stages can be guided, partly by aiding in reality testing and by developing the self-concept.

The elementary school program based on Super's theory includes activities that help achieve self-understanding and personal development, and a program of accurate, realistic occupational information. An essential part of the occupational information service will be concerned with attitudes toward work (Isaacson, 1966). Super's research with ninth grade boys underscores the importance of occupational information in the elementary school. The boys who were able to make the most realistic career choices in view of their personal abilities and opportunities were those who had had the greatest exposure to valid information about the world of work (Super and Overstreet, 1960).

BUILDING CAREER EDUCATION PROGRAMS: THE INTERACTION OF THEORIES

In building career education programs, vocational development theory cannot be applied in isolation. The development of the Multi-Component Career Education Curriculum Model at Eastern Illinois University serves as an example of how vocational development theories interact with the child growth and development, learning, and curriculum development theories to produce career education programs which serve the needs of students and are functional for teachers and counselors.

In developing the Multi-Component Model, the first steps included the collection of relevant information on career development. The literature on career education, career guidance, and career development was surveyed and analyzed. In addition to the literature survey, students, parents, teachers, and workers were interviewed to determine their perceptions of career education. Out of these data collection activities came the following set of assumptions:

1) Career education programs must be based on a developmental concept.

2) Careers rather than occupations should be the focus of career education programs. (This does not mean that specific occupations cannot be used to teach larger career development concepts.)

3) Career education programs must provide assistance in the development of decision-making skills.

4) Self-concept factors influence decision-making.

5) Attitudes and appreciations relative to work influence decision-making.

6) Lifestyle and job satisfaction as well as economic rewards are important factors which influence career choices.

7) Coping behaviors influence job satisfaction.

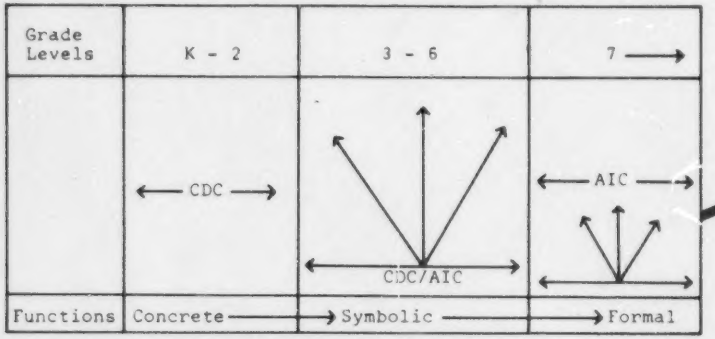
8) Career education programs should be articulated, planned programs which are provided for all learners, pre-school through adulthood.

9) Academic, vocational, and general learning experiences are all a part of a career education program.

10) The community, the school, and the home all have contributions to make to career education programs.

The Model, which is being developed consistent with the above assumptions, relies heavily upon the previously described vocational development theories as well as on Piaget's learning and child growth and development theories (Athey and Rubadeau, 1970; Phillips, 1969; and Rosskopf, 1971); and on Taba's (1967) curriculum development theory. The Model utilizes these theories in four components which are listed below, described in the following sections, and diagrammatically represented in Figure 1.

From an analysis of Child Growth and Development the "CDC/AIC Clustering Component" emerged...



CDC - Child Developed Clusters
AIC - Adult Imposed Clusters

And from an analysis of Curriculum Development and Learning Theory the "Contrasting Sequences in Curriculum Development and Learning Component" emerged...

Curriculum development		Examples	
		Grade 2	Grade 4
Concepts		Interdependence	Interdependence
Main ideas		Each worker provides a service someone else needs.	Each region of a state depends upon other regions for different things.
Specific content		Teacher, gas station attendant, merchant, etc.	Water, food, etc.

Child's learning

And from an analysis of Vocational Development Theory the "Career Development Concepts Component" emerged...

- Attitudes and Appreciations Dimension
- Coping Behaviors Dimension
- Career Information Dimension
- Decision-Making Dimension
- Educational Awareness Dimension
- Lifestyle Dimension
- Self Development Dimension

which will eventually be used by administrative personnel, instructional and guidance personnel, work-leisure personnel for the "Implementation Component" for career education programs

Figure 1. The Multi-Component Career Education Curriculum Model

1) Child Developed Clusters and Adult Imposed Clusters Component (CDC/AIC Component).

2) Contrasting Sequences in Curriculum Development and Learning Component.

3) Career Development Concepts Component.

4) Implementation Component.

Child Developed Clusters and Adult Imposed Clusters Component

Within the past several years, the use of clustering systems as a planning vehicle for career education programs has been suggested by several individuals and agencies (*Vocational Education and Occupations*, 1969; U.S. Office of Education, 1969; Roe, 1956; Super, 1957; Robinson, et al., 1971; and Taylor, et al., 1972).

> The term "cluster" has taken on a variety of meanings. It may refer to a simple grouping of seemingly like jobs, to broad institutional groupings such as transportation or manufacturing, to groupings based on similar job products, to groupings based on analysis of work tasks, and so on. The type of cluster developed depends upon the particular purposes and requirements of the agency doing the clustering. Overall, the field of occupational clustering is marked by a diversity of criteria and variables, and a paucity of comprehensive frameworks (Taylor, et al., 1972: 4).

An examination of existing occupational clustering systems revealed that these systems have little meaning for the development of kindergarten through sixth grade career education curriculum. The various clustering systems represent organizational plans that have meaning for adults but little meaning for children.

Piaget helps to explain the problem of applying existing clustering to child-centered career education programs by explaining that the child's mind is internally consistent; yet, externally it appears to the adult as illogical. Piaget treats this subject when he discusses equilibrium (Athey and Rubadeau, 1970; Phillips, 1969; and Rosskopf, 1971). He says that, in general, the structures associated with the earlier stages of intellectual development tend to be characterized

by less stable equilibrium, in that the probability of their modification through new experience is relatively high. As the structures evolve, they come into increasingly stable equilibrium, until those which have developed by the time the individual reaches the level of formal thought at around 14 years of age will undergo little fundamental modification through the remainder of his lifetime.

This does not necessarily imply that all forms of intellectual development reach a plateau at approximately fourteen years of age. It only reflects Piaget's conclusion that the fundamental structures associated with this particular form of thought tend to be present by then.

The "Child-Developed Clusters and the Adult-Imposed Clusters Component" (CDC/AIC) or the Model takes into account that the study of occupational areas in the early grades must be based upon a set of environmental conditions in which the teacher and curriculum materials together represent an education strategy capitalizing on the particular prior experience and current cognitive development of children. The teacher can elicit from the child those occupational areas that are within the child's realm of understanding. The resulting clusters may seem very unsystematic to the adult mind, but to a five, six, or seven year-old child, the clusters have meaning. Would an adult place the milkman, the garbage man, and the mailman in the same cluster? Children who were interviewed during the data collection phase of the development of the Model clustered the above-named people together because they were all ". . . people who brought things to my house."

The CDC/AIC Component also takes into consideration that the child is perceptually oriented; he makes judgments in terms of how things look to him, and he often focuses on one variable only. Usually the variable is one that stands out visually. In summary, during the primary grades, a career education curriculum should allow for many success experiences with concrete objects that have been selected primarily for their relationship to the prior experience of the child and should also include some experiences which are not within his experiential background. The time for a greater amount of imposed materials will come at a later stage of intellectual development.

Too frequently education strategies have moved children abruptly from a world of finding out, testing, and manipulation to a world of adult-imposed symbolic and verbal manipulations which organize knowledge for the child. Thus, the CDC/AIC Component provides for a transition stage at the 3-6 grade level when the curriculum provides for experiences which are "child-developed" and "adult-imposed." In general, this is also the stage when the transition from concrete-dominated functioning to a state dominated by abstract cognitive functioning begins to take place. This transition is not uniform among the various subject matter content that is encountered by the child. The transition from concrete-dominated to abstract-dominated cognitive functioning likely takes place specifically in each separate subject-matter area and is dependent upon the child's previous experience with the content under study.

It should be noted that, while in Figure 2 the K-2 levels have been designated as levels dominated by concrete functioning, this does not mean that such functioning totally supersedes the more mature symbolic and formal functions. Likewise, the designation of grades 3-6 as levels when symbolic functions are dominant does not mean that concrete or abstract functions are nonexistent.

Traditionally, there has been more symbolic learning involved when adult-conceived structures and content are imposed upon children. Therefore, the child has to be cognitively ready to deal with symbolic learning before adult-imposed systems can have meaning for him. The 3-6 grade child who has moved from concrete-dominated experiences to a readiness for dealing with more symbolic learning is ready to begin to accept clusters of occupations that have been developed in logical schema by adults.

The 3-6 grade years, as indicated in Figure 2, are years that are marked by experiences that are discretely concrete, experiences that are discretely abstract or symbolic, and experiences that involve various combinations of abstractness and concreteness. It is important to emphasize that these learning modes are continued throughout a lifetime: an individual may continue to undergo the same transition from concrete to abstract cognitive functioning in each new subject matter he encounters--even after he reaches the abstract-dominated stage of development on an overall basis.

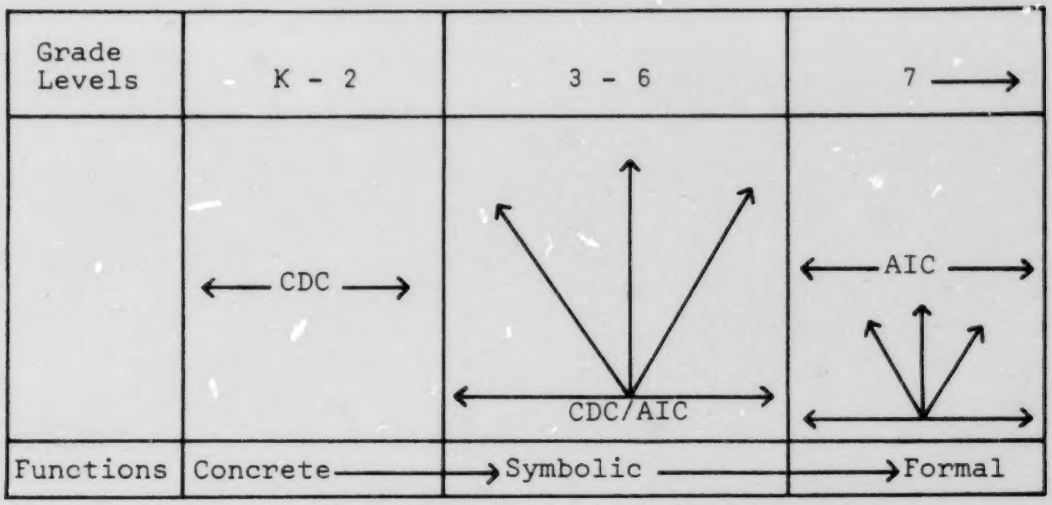


Figure 2. CDC - Child Developed Clusters
AIC - Adult Imposed Clusters

Characteristics of Occupational Areas Within Clusters

CDC - Random and sporadic. Will vary considerably from one geographic area to another and will be partially dependent upon socioeconomic context of learner. Also affected by family setting. Content determined internally by classroom S's.

AIC - Prestructured and fixed. Tends to be more uniform from one geographic area to another and not so dependent upon socioeconomic context of the learner. Less affected by family setting. Allows for good organization because content is externally imposed from adult logical point of view--not from psychological point of view of the child.

CDC/AIC - Is at times random and sporadic (depending upon subject matter context) and at times may be prestructured and fixed. Aids the child in moving toward an organizational framework for more intensive exploration of his life roles.

The CDC/AIC Component, then, allows for the movement of these learning modes into the stage of development where learning becomes more formal and where adult-imposed clusters of occupations have a more logical placement. This stage of

development generally occurs at about the time of entry into seventh grade and continues at higher levels of sophistication throughout a lifetime.

Contrasting Sequences in Curriculum Development and Learning Component

It was mentioned earlier that the Model relies heavily on the curriculum development of Taba. From Taba (1967), the project staff learned that a good curriculum will be addressed to multiple objectives. The four categories which Taba outlines are: (1) basic knowledge; (2) thinking; (3) attitudes, feelings, and sensitivities; and (4) skills. Taba subdivides the category of basic knowledge into three areas: basic concepts, main ideas, and specific facts. She says the basic concepts are high level abstractions and are the threads that occur and reoccur in connection with different content. They are of sufficient importance and complexity to serve as threads throughout the entire program. An example of one of these threads for career education programs is: "The student will learn about himself in relation to his culture through understanding and experiencing roles."

After the basic concepts or threads have been determined, the main ideas or subconcepts which represent important generalizations are determined. An example of a career education main idea or subconcept is: "The student will recognize the role of each family member."

After the main ideas or subconcepts have been determined, specific facts are used to develop the main ideas. These facts are rarely important on their own account, and since many different samplings of facts can be used to develop the main idea, it is possible to use alternate sets of facts with different student groups. While concepts are to be studied repetitively and ideas need to be covered, specific facts should be sampled selectively rather than covered (Taba, 1967). An example of a specific fact is, "In some families, both daddies and mommies work outside the home."

Another important lesson can be learned from the curriculum development theory of Taba (Taba, et al., 1971): The development and the organization of content proceed from concepts to main ideas or subconcepts and from there to specific content. However, the learning sequence is in reverse. Students start with specific instances and then develop the

main idea (see Figure 3). Concepts are formulated across many main ideas in several contexts (Taba, 1967).

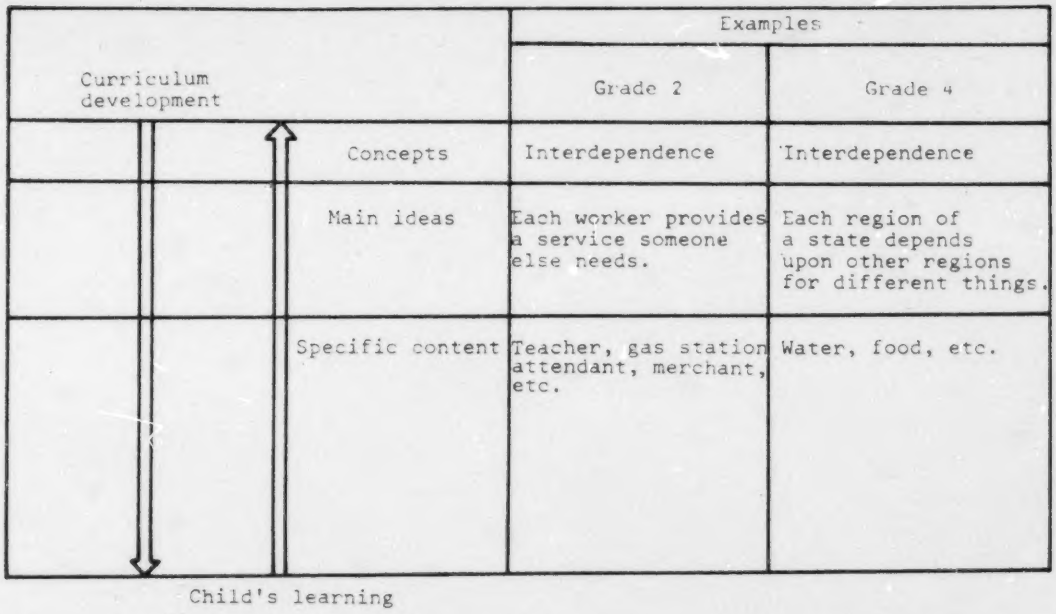


Figure 3. The Multi-Component Career Education Curriculum Model Contrasting Sequences in Curriculum Development and Learning Component

The above statements by Taba have important implications for career education in the elementary school. For one thing, they imply that there is nothing wrong with using specific occupations from which to form a base for acquiring main ideas about career education which eventually lead to career education concept formation. Of course, the two precautions that are inherent in the Model are that: (1) the selection of specific occupations should fall primarily within the experiential background of the K-2 child with the occasional introduction of new occupational areas to which the child has not been exposed, and (2) specific occupations should never be used at the K-6 level for purposes of steering children into specific occupational areas.

Career Development Concepts Component

Identification of the concepts to be included in a career education program is a critical task. Many different techniques, methods, and starting points can be used to teach a concept once the concept has been identified. Studying specific occupations is one starting point that can be used to teach larger concepts and broader generalizations. In fact, in the elementary school, some teaching which involves using specific occupations to teach larger career development concepts makes sense. Children can relate to specific occupations. Their role-playing behaviors reflect this: a four-year-old may fantasize that she is a team of health care workers. More than likely, the role playing and fantasizing will center around pretending to be a doctor, or a nurse, or an ambulance driver.

Children enjoy role playing occupations. Recent visitors to a field testing site where some "hands-on" K-6 career education materials that were developed around specific occupations were being tested made the comment that it looked as if the children were playing rather than working with the manipulatives. The developers of the materials were delighted. At this developmental level, play is not distinguished from work as the predominant mode of learning. If a child is fully involved in and has fun with a career education activity, then career education is contributing to the enjoyment of childhood.

Before good career education programs can be built, the content of career development has to be analyzed. The Model includes the philosophy that career education is the curricular program which results when career development concepts and subject matter concepts can be brought together in some meaningful fashion. Once major concepts and subconcepts relative to career development have been identified, then strategies for bringing subject matter concepts and career development concepts together can be outlined. Career development concepts need to be placed within the curriculum on the basis of sound child growth and development data, learning theory, career development theory, and curriculum development theory. If all of the preceding are taken into consideration, the integration of career development concepts and subject matter concepts becomes much easier because subject matter concepts in areas such as mathematics, science, and language arts are supposedly already articulated and sequenced according to

child growth and development theory, learning theory, and curriculum development theory.

The question, then, is, "What career development concepts should be included in a career education program?" It was noted earlier in this paper that the literature on career education, career guidance, and career development was surveyed and students, parents, teachers, and workers were interviewed. Part of the literature survey included the examination of career development concepts that had been identified by other career education projects. These projects included:

Anne Arundel County Career Education Project
Annapolis, Maryland 21401

Comprehensive Career Education Model
The Center for Vocational and Technical Education
The Ohio State University
Columbus, Ohio 43210

EPDA Institute: Career Development and the
Elementary School Curriculum
College of Education
University of Minnesota
Minneapolis, Minnesota 55440

OCCUPAC Project
The Center for Educational Studies
Eastern Illinois University
Charleston, Illinois 61920

The identification of career development concepts is a phase that has been overlooked in the establishment of some career education programs. Where attempts (such as those cited above) to identify career development concepts have been made, it should be remembered that these attempts, for the most part, are still being validated. Concepts are being revised and moved to different grade levels.

From the literature search, it was ascertained that career development concepts for the Model would be established around the following dimensions of career education:

1) Attitudes and Appreciations Dimension,

2) Coping Behaviors Dimension,

3) Career Information Dimension,

4) Decision-Making Dimension,

5) Educational Awareness Dimension,

6) Lifestyle Dimension, and

7) Self-Development Dimension.

After extensive discussion with educators from throughout the country, it was determined that in order to avoid confusion with the economics demension of social studies programs, economic concepts would be woven into all the dimensions and that a separate category called "Economic Awareness" would be avoided. Four of the dimensions (i.e., Coping Behaviors, Decision-Making, Lifestyle, and Self-Development) have been labeled developmental dimensions, and concepts related to these dimensions can be sequenced in logical progressions for different experience levels. Three of the dimensions (i.e., Attitudes and Appreciations, Career Information, and Lifestyle) have been designated as dimensions in which each dimensional concept and subconcept is appropriate for all experience levels. Concepts in these three dimensions would be presented at increasingly higher levels of sophistication to correspond with increasingly higher experience levels.

An example of how concepts and subconcepts for the Model are formulated and sequenced is shown in Figure 4. After concepts and subconcepts have been identified and sequenced, it is important that the concepts have some relationship to other parts of the curriculum. The developers of the Model believe that, in the elementary school in particular, career development concepts can be infused with concepts taught in other subject matter areas. In Figure 5, the Decision-Making subconcept for the second experience level has been placed beside some of the subject matter concepts that are frequently taught at the second experience level.

Major Concept: 1. Life involves a series of choices leading to career commitments.

Subconcepts:

A. Choice means "making up one's mind" and there are certain situations where one can make choices.

B. Things change and these changes influence the choices and decisions one makes.

C. An individual's decisions affect himself and others.

D. People change and these changes influence the choices and decisions one makes.

E. Decision-making involves risks.

F. Decision-making can precipitate chain reactions.

G. Previous decisions, peers, gratifications, needs, interests, and career information influence present and future decisions.

Major Concept: 2. Basic components of the decision-making process can be applied to the establishing of personal goals and the making of career-related decisions.

Subconcepts:

A. An individual should recognize what "a goal" is and learn how to set his own goals.

B. Problems which conflict with one's goals can be identified and assessed.

C. An individual should consider alternative ways to reach a given goal.

D. Decision-making plays a role in the setting of immediate and long-range goals.

E. The decision-making process can be used to set priorities in developing personal goals.

F. Setting goals can be enhanced by analyzing decision-making processes.

G. The decision-making process can be used to determine one's preferences, at that point in time, between various job families.

Figure 4. The Multi-Component Career Education Curriculum Model Career Development Concepts Component Sample Dimension--Decision-Making

Career Development Subconcepts	Selected Subject Matter Concepts
The student will develop an awareness that his decisions affect him and others. (Figure 4., Major Concept 1, Subconcept C)	Social Studies Contacts with other neighborhoods are needed. Neighborhoods have character. Science Earth is one of many planets. Sun is one of many stars. Living things need food and water to grow. Plant parts have different functions. Movements of molecules determines whether things are gas, liquid, or solid. Language Arts Follows printed directions. Makes judgments of stories, characters. Reads for information, other purposes. Spelling words grouped by ideas, or by structures. Transition to cursive writing. Mathematics Sums and minuends through 18. Zero concept. Products and dividends through 18. Concept of one-half. Calendar: months, weeks, days. Time: to nearest half-hour.

Figure 5. Career Development Subconcepts and Subject Matter Concepts

The subject matter concepts listed in Figure 5 are not an exhaustive list of concepts. However, from among the concepts that are listed, it is possible to begin to see some relationships between the career development concepts and the subject matter concepts. For example, classroom activities can be devised which tie together the career development concept that "The student will develop an awareness that his decisions affect him and others" with the social studies concept that "Contacts with other neighborhoods are needed" or the several different science concepts which suggest that things or people are dependent upon and interact with other things or people.

It is not necessary that every career development concept should be tied in some way to each subject matter area. In some cases, a career development concept can be presented most effectively with one subject matter area only. In other cases, a career development concept has a logical relationship to several subject matter areas. It is probable that some career development concepts can best be presented in isolation.

Implementation Component

The final step in the Model is the actual implementation in the classroom setting. The Model's basic intent is not to change all the techniques and strategies used to teach mathematics, science, and other basic skills. Rather, it is the intent that career development concepts can serve as the basis around which actitities are built that require the application of basic skills. Hopefully, these applied activities will eventually improve the teaching of basic skills.

Some efforts are already underway to devise classroom activities that are built around the basic components of the Model. Materials are being developed by the Enrichment of Teacher and Counselor Competencies in Career Education Project staff at Eastern Illinois University, Charleston, Illinois, and K-6 materials are being developed for the Curriculum Development Basic to the Training of Individuals for Employment in Agri-Business, Natural Resources, and Environmental Projection Projects, by the Ohio Career Education and Curriculum Management Laboratory in Agriculture Education. The Ohio State University, Columbus, Ohio, will incorporate the Model components.

Activities in the implementation stage require input from three major personnel elements: (1) school personnel associated with the administrative function, (2) school personnel associated with the instruction-guidance function, and (3) personnel associated with the work-leisure community. It is in the implementation stage that other components of the Model are brought together. Curriculum guides and materials are devised, guidance and instructional strategies are carried out, administrative support is provided, and out-of-school experiences and placement functions are implemented.

Throughout the development of the Model, it was intended that instruction be developed in conjunction with guidance. It was also intended that vocational, academic and general learning experiences should be integrated and based on a developmental concept. The Model presents an integrated developmental curriculum, one built around the characteristics of learners at different levels, which will help learners fuse concepts relative to Attitudes and Appreciation, Coping Behaviors, Career Information, Decision-Making, Educational Awareness, Lifestyle, and Self-Development into meaningful and satisfying careers.

SUMMARY

In conclusion, the development and implementation of career education programs cannot be accomplished by the application of vocational development theories alone. Rather, such programs can be created by the interaction of vocational development, learning, child growth and development, and curriculum development theories.

The Multi-Component Career Education Curriculum Model presented serves as an example of the interaction of various theories to produce meaningful and functional career education programs. In attempting to build career education programs, we must be thoroughly cognizant of how children learn and aware that: (1) career development takes place over a number of years, (2) occupational choice is not a "point in time event," and (3) an individual chooses occupations which will allow him to function in a role consistent with his self-concept. In addition, we must be aware of the fact that a person is an economic, social, family, moral, and

leisure being. All-out attempts should be focused on developing career education materials which will take these facts into account and help students learn how to become the individual they want to be and are capable of becoming.

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DESCRIPTORS - *Vocational Development; *Career Education; *Educational Theories; *Models; *Curriculum Development; Decision Making; Concept Formation; Child Development; Individual Needs; Socioeconomic Influences; Occupational Aspiration.

IDENTIFIERS - Multi-Component Career Education Curriculum Model.

ABSTRACT - Vocational development theories categorized as trait-and-factor approaches, decision-model approaches, sociological approaches, psychological approaches, and developmental approaches are presented to show how they might be applied in elementary, middle, and high school career education programs. The paper describes The Multi-Component Career Education Curriculum Model, developed at Eastern Illinois University, as an example of the current use of vocational development theory, learning theory, child growth and development theory, and curriculum development theory in formulating curricular materials and procedures for career education programs. It is emphasized, that in building such programs, the interaction of the various theories is needed, not just the application of vocational development theories alone. Career development takes place over a number of years, occupational choice is not "a point in time event," and an individual chooses occupations which will allow him to function in a role consistent with his self-concept. In developing career education materials the occupational, economic, social, family, moral, and leisure being must be considered in order to help students learn how to become the persons they want to be and are capable of becoming. (MF)